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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,014	04/18/2000	Norbert Roma	940630-010-020	2080

7590 08/23/2006

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EXAMINER	
POLLACK, MELVIN H	
ART UNIT	**PAPER NUMBER**
2145	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/551,014	ROMA, NORBERT	
	Examiner	Art Unit	
	Melvin H. Pollack	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7,9-32,34 and 35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6,9-13,15-19,21-32,34 and 35* is/are rejected.

7)☒ Claim(s) *7,14 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 November 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *see attached office action*.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02 June 2006 have been fully considered but they are not persuasive, except in the case of claim 7 and related claims. An analysis of the arguments is given below.

2. The examiner accepts applicant's definition of profile, and the amendment to the specification.

3. Applicant has added several new claims without canceling any claims. These claims provide limitations outside of the scope of the original claim set, necessitating in new search and consideration.

4. Applicant argues that Roitblat does not disclose the generation of document scores (Pp. 16-18). Instead, applicant argues that Roitblat merely teaches "comparing the semantic profile generated from the user's query to the semantic profiles generated for the new documents (P. 17, lines 3-9), of training a neural network using a reference corpus (P. 17, lines 15-16), and of comparing text vectors derived directly from retrieved documents to text vectors generated by the neural network (P. 18, lines 5-7)." These phrases alone show the development of document scoring in Roitblat, for a couple of reasons. First, the generation and derivation of semantic profiles and/or text vectors reads on the determination of a document score indicative of document content as defined by the specification. Second, a computer system comparing two profiles or text vectors must inherently do so by determining at least one numeric score. And third, a computer system performing comparison of two items that leads to any decision process inherently requires the determination of a numeric score crossing a numeric threshold.

5. As shown before, Roitblat teaches the usage of scoring a reference corpus of documents against a profile. "Each input vector is presented to a neural network typically consisting of three layers of units. The input layer receives the input text vectors, the output layer produces a corresponding output or result vector... The hidden units come to encode a summary of the relationships among the elements of the input vectors (each element having a weight and a potential non-zero score) (col. 5, lines 30-55)." Further scoring is shown in col. 9, line 25 – col. 10, line 40, where weighting formulas and result vector computation and manipulation is shown. For example, "the relevance of the document to the query corresponds to the similarity in their semantic profiles, which can be assessed by taking *the dot product* of the query semantic profile and the document semantic profile (col. 9, lines 15-20)." One of ordinary skill in the art knows that the dot product of two vectors is a scalar, not vector, solution based upon the magnitudes of the vectors and the angle between them. Therefore, this dot product is a number that is used to determine relevance – a numeric score.

6. Applicant argues that Kramer does not expressly show exponential decay scoring systems (P. 19, 2nd Para.). Kramer teaches that "updating of attribute vectors (the scoring system of Roitblat and Kramer) may be done with any variety of techniques, including exponential decay (col. 30, lines 8-10)." While the precise term "scoring" does not appear, the process of attribute vector manipulation in both Kramer and Roitblat are both functionally equivalent to the definition of scoring drawn in the instant application.

7. Applicant argues that Zipf's law is not used in Roitblat in conjunction with document scoring (P. 20, last paragraph). The examiner notes that, when reading the evidence as a whole, it becomes clear that the purpose of Zipf's law is to determine the element numbers of the text

vectors that are both a vector score and will later be used via dot products to become a numeric score (col. 4, line 55 – col. 5, line 60).

8. In response to applicant's argument that the Nature Article cannot be bodily incorporated into Roitblat, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

9. The applicant has withdrawn the claim 7 rejection in light of the amendment and remarks.

10. Regarding claims 21-35, the applicant has failed to specify the particular additional distinguishing matter, with mapped support to the specification. At any rate, the examiner will show the added limitations.

11. Claim 33 is missing.

12. For the reasons above, the rejection is maintained. This action is final.

Allowable Subject Matter

13. Claims 7, 14, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: the examiner agrees upon reconsideration in regards to the allowability of claim 7 as currently amended and drawn in the remarks.

15. Claim 7 adds that scoring is performed via a power law function of a specific type not shown in Roitblat. While such functions may be used in document scoring, the art does not teach or suggest using power law functions to determine document scores for the purpose of selecting a data stream document from a data stream. Therefore, claim 7 in independent form is novel and non-obvious.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17. Claims 2, 3, 6, 9, 10, 13, 15, 16, 19, 21-23, 25-29, 32, 34, 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Roitblat et al. (6,189,002).

18. For claims 2, 9, and 15, Roitblat teaches a method and system (abstract) of retrieving information from a data source (col. 1, line 1 – col. 2, line 50), comprising:

a. Receiving an information request (Fig. 4, #401-403) from a communications network (col. 6, lines 41-43);

b. Selecting a data source (col. 5, lines 55-65 and col. 9, lines 50-55);

c. Selecting a profile (Fig. 4, #405 and col. 6, 45-50 in view of Fig. 1, #102; the semantic profile of a query selects the vector profile);

d. Analyzing (Fig. 1, #101-103) a reference corpus of documents (col. 3, lines 20-65) against said profile (col. 4, lines 5-55) to determine at least one document score indicative of content of at least one document of the reference corpus (col. 5, lines 15-30) relative to the profile (col. 4, line 55 – col. 5, line 55);

e. Scoring (Fig. 1, #104-106) at least one data source (stream) document from said selected data source (stream) against said profile (col. 5, line 63 – col. 6, line 40) to provide a document score indicative of content in said data source document relative to the profile (col. 5, lines 55-62); and

f. Comparing (Fig. 1, #107-109) said document score from said data source document to said at least one document score from said analysis of the reference corpus (col. 6, lines 10-30) to retrieve (select) said data source document from said data source (col. 6, line 41 – col. 7, line 20); and

g. Transmitting (Fig. 4, #404-407) said retrieved data source document over said communications network (col. 7, lines 18-21).

19. For claims 3, 10, and 16, Roitblat teaches determining a plurality of reference corpus document scores corresponding to a plurality of delivery ratios of documents, and selecting said data stream document based upon comparing said document score from said data stream document to a document score from the analysis of the reference corpus corresponds to a specified delivery ration (col. 6, lines 10-30 in view of col. 9, lines 15-20).

20. For claims 6, 13, 19, 25, 32, Roitblat describes the usage of Zipf's law, which is known by one of ordinary skill in the art as related to power law methods (col. 5, lines 8-14).

21. As for claims 21, 22, 26-29, 34, 35, the claim 2 etc. discussion shows many of the limitations taught by Roitblat. Roitblat further teaches selecting a reference corpus of documents (col. 9, line 60 – col. 10, line 40), establishment and association for score thresholds (col. 9, line 5 – col. 10, line 40), and analysis against a topic (col. 5, lines 15-30), and the structure to do so (col. 1, line 1 – col. 4, line 5). Therefore, these claims are also rejected based on the above discussions.

22. For claims 23, 30, Roitblat teaches a plurality of score thresholds, delivery ratios, and reference corpus document scores (col. 9, line 5 – col. 10, line 40).

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

24. Claims 4, 5, 11, 12, 17, 18, 24, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roitblat as applied to claims 3, 10, 16, 23, 30 above, and further in view of Kramer et al. (6,327,574).

25. For claims 4, 5, 11, 12, 17, 18, 24, 31, Roitblat does not expressly disclose that said delivery ratios correspond to score thresholds according to an exponential decay function, but does allow for the usage of alternative, well known statistical techniques for the normalization of vectors and scoring systems (col. 7, lines 25-27; col. 8, lines 11-16 and 48-55). Kramer teaches a method and system (abstract) of comparing documents to topic profiles to determine closeness to topic (col. 1, line 1 – col. 3, line 60) by utilizing an exponential decay function scoring system

(col. 30, lines 8-10). At the time the invention was made, one of ordinary skill in the art would have added Kramer techniques in order to increase document updating (col. 3, lines 34-37).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin H. Pollack whose telephone number is (571) 272-3887. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MHP
18 August 2006

JASON CARDONE
SUPERVISORY PATENT EXAMINER